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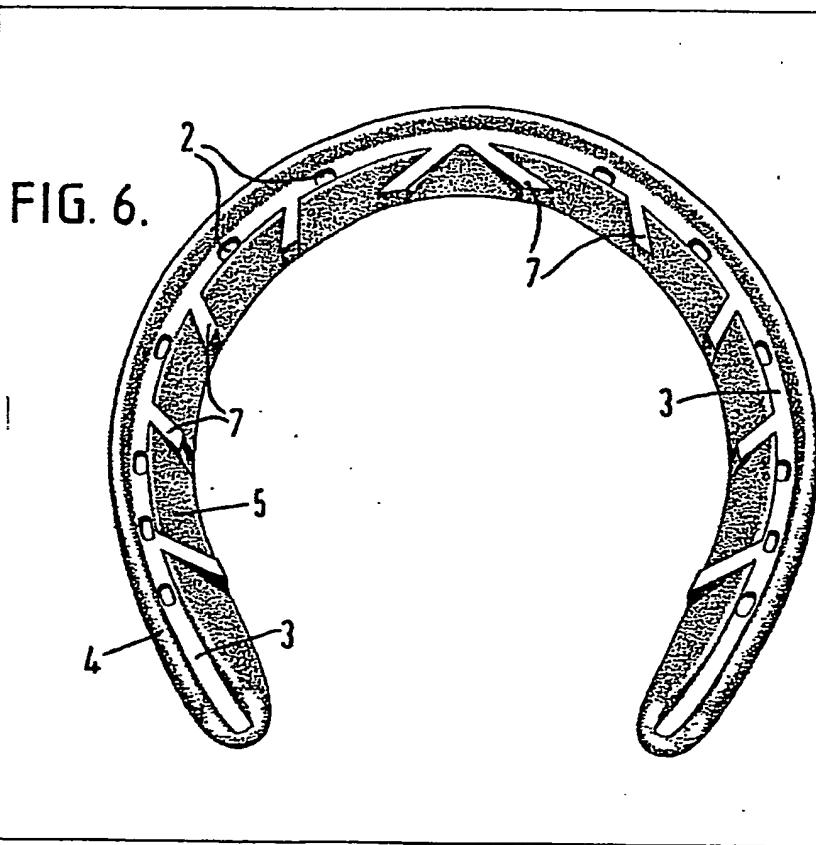
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(54) A horseshoe

(57) A horseshoe is provided with a
 plurality of projections (7) extending
 from a lower face thereof, to aid

traction between the horseshoe and a
 surface engaged by the lower face.
 The projections (7) may be of
 rectangular cross-section and inclined
 to radii of the horseshoe.



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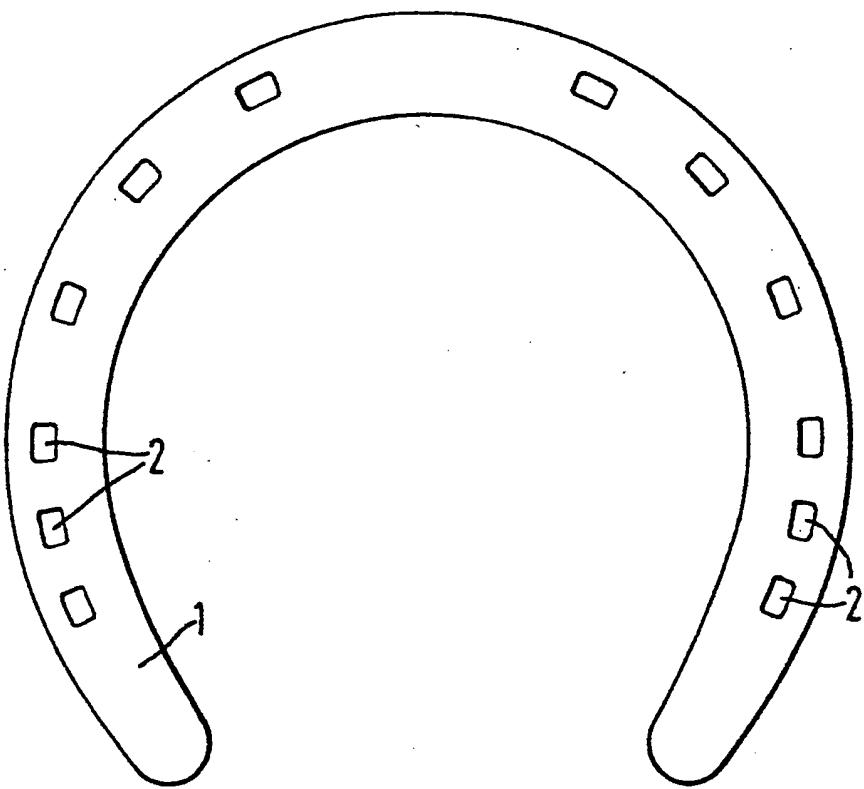


FIG. 1.

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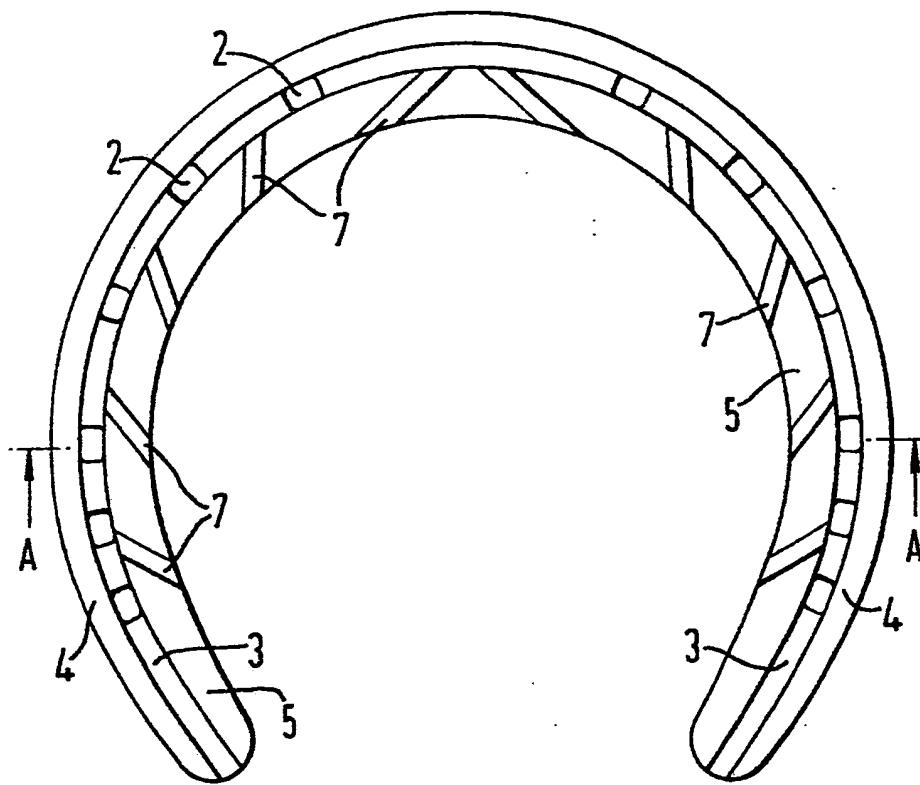


FIG. 2.

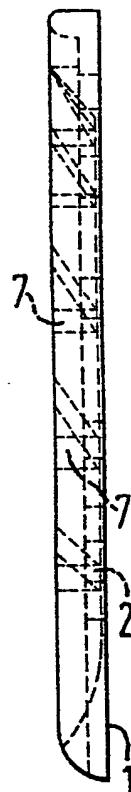


FIG. 3.

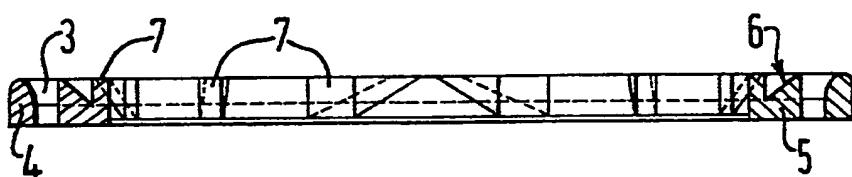


FIG. 4.

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FIG. 5.

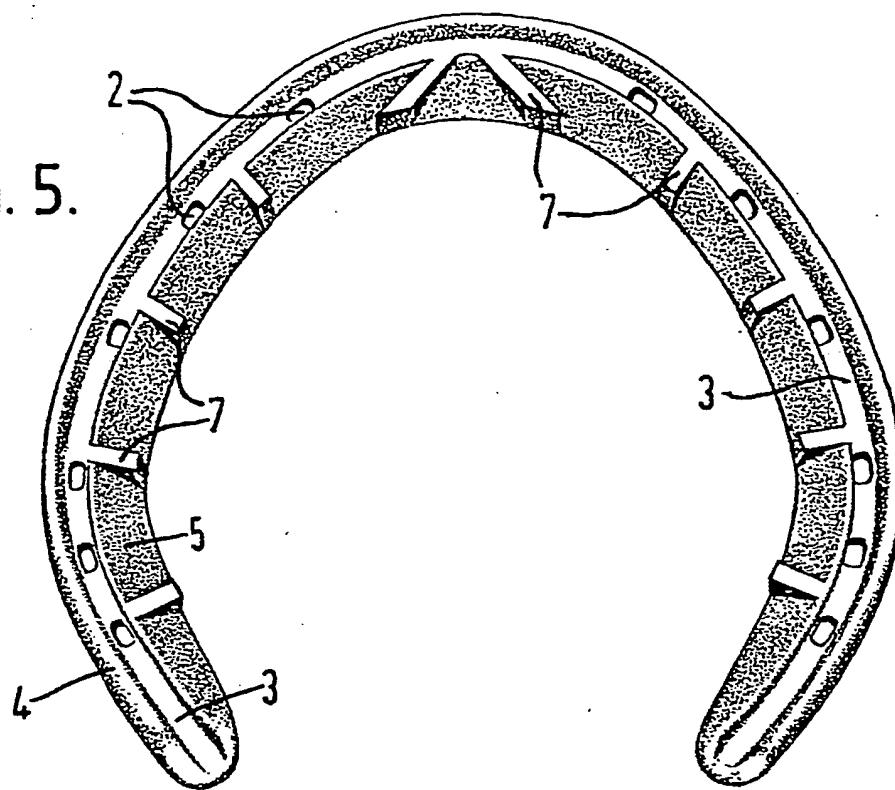
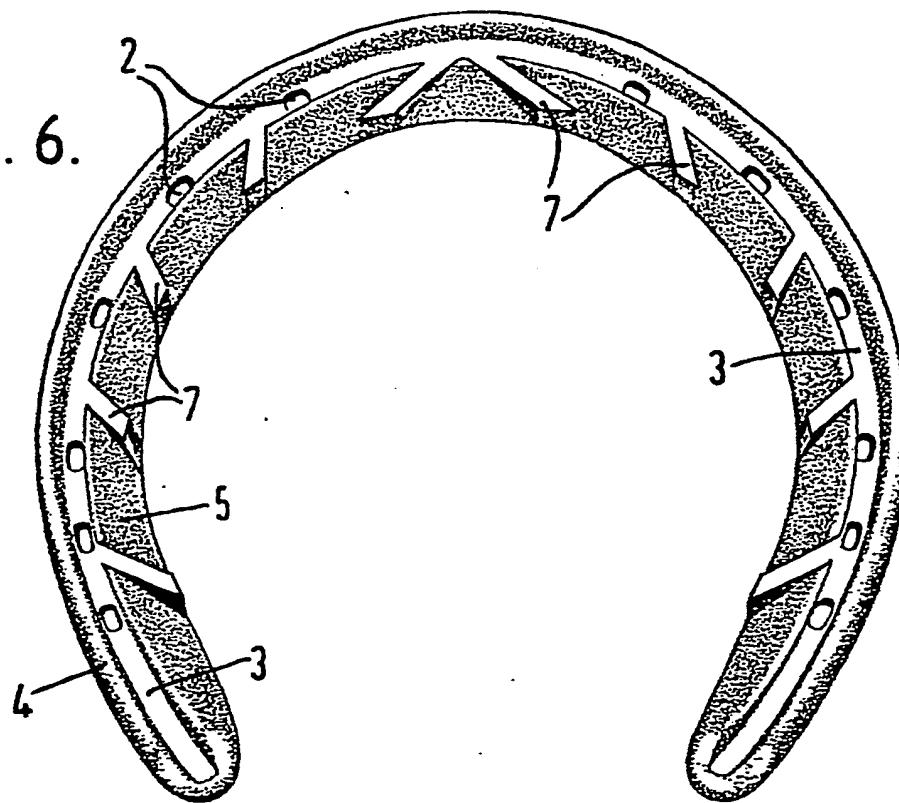


FIG. 6.



SPECIFICATION
Horseshoe

This invention relates to a horseshoe.

The shape of known horseshoes is a circular arc 5 larger than a semi-circle. The horseshoe is provided with holes for nails. A channel extends around the horseshoe in a bottom surface thereof, and the holes for the nails open into the bottom of this channel. Thus, once the horseshoe has been 10 fixed to a hoof by nails the heads of the nails do not protrude, but instead are located in the channel and are flush with the bottom surface of the horseshoe.

Known horseshoes are commonly made of iron, 15 although a lightweight metal can be used for racing shoes or plates. Racehorses are commonly equipped with conventional iron shoes for training, and fitted with lightweight shoes only for racing.

Known horseshoes or plates provide little 20 assistance to a horse in full gallop. Also, on slippery or soft ground, a horse may have difficulty in maintaining its footing.

According to the present invention there is 25 provided a horseshoe, which includes a plurality of projections on and/or with a plurality of recesses in a lower face thereof, whereby in use traction between the horseshoe and a surface engaged by the lower face of the horseshoe is enhanced.

For a better understanding of the present 30 invention, and to show more clearly how the same may be carried into effect, reference will now be made, by way of example, to the accompanying drawings, in which:

Figure 1 shows a plan view of the horseshoe 35 according to the present invention;

Figure 2 shows the underside of the horseshoe shown in Figure 1;

Figure 3 shows a side view of the horseshoe shown in Figure 2.

Figure 4 shows a section along the line A—A of 40 Figure 2; and

Figures 5 and 6 show the underside of two horseshoes according to the invention.

As shown in Figure 1, the horseshoe has a 45 generally flat upper surface 1, and is provided with holes 2 for nails. As shown, these holes 2 can be rectangular.

Referring to Figure 2, the underside or bottom face of the horseshoe includes a channel 3, which 50 extends around the entire horseshoe. An outer edge of the channel 3 is bounded by a portion of the shoe with a rounded lip 4 at its lower side, whilst the inner edge of the channel 3 is bounded by a portion 5 which has a surface 6 which slopes 55 upwardly and radially inwards. Since the sectional view of Figure 4 shows the horseshoe upside-down, this surface 6 slopes downwards in Figure 4.

From this sloping surface 6 there projects ten 60 projections or cleats 7. In this described embodiment, a vertical section through each projection 7 shows a generally rectangular cross-section (as shown on both sides of Figure 4). All the projections 7 are at an angle to a radius

65 extending from a centre of the horseshoe through the respective projection. Furthermore, the projections 7 are disposed symmetrically on either side of the horseshoe and are equally spaced along the sloping surface 6. All the projections 7 70 except for the two projections 7 shown at the top of Figure 2 are so orientated, that, in use, when a horseshoe is driven backwards relative to the ground (i.e. in the downwards direction in Figures 1 and 2), a wedge of ground is driven between 75 each projection 7 and an adjacent part of the sloping surface 6, thereby improving the traction or grip of the shoe. For the two projections shown at the top of Figure 2, a wedge of ground is driven between these two projections to improve the 80 traction. The number of projections and the orientation of each projection can be varied, and in particular it may be found that different arrangements are needed for different surfaces.

Each projection 7 could be 3 mm thick, and a 85 bottom surface of the projection could be flush with the bottom of the nail channel 3, as shown in the drawings.

It is not necessary for all the projections 7 to have a similar cross-section. Combinations of 90 projections 7 with different cross-sections can be used. Furthermore, in certain circumstances, it may prove beneficial to provide projections for the portion of the shoe outside the nail channel 3.

The horseshoes according to the present 95 invention can be made from a variety of materials. In particular, iron, iron alloys, aluminium and aluminium alloys can be used. Conveniently, horseshoes according to the present invention can be cast in a mould which includes the shapes for

100 the projections. Also, nylon or like substances can be used. Whatever material is used, the shape and arrangement of the projections may be varied to impart maximum grip and thrust. Generally, it is expected that one design will be suitable for both 105 front and back rear shoes plates on a horse, although in certain circumstances it may prove beneficial to use different shaped shoes at the front and rear.

In the case of horses which are fitted with iron 110 training plates and lightweight racing plates, it is suggested that the iron plates and the lightweight racing plates should have a similar arrangement of projections, in order that the horse can become thoroughly accustomed to any difference in feel 115 for that arrangement.

The described embodiment is intended principally for racehorses, and is thus primarily intended to improve longitudinal traction between the shoe and the ground. For other uses, it may be 120 desirable to arrange the projections 7 so as to provide improved traction or grip laterally.

Figures 5 and 6 show two different designs. The Figure 5 design is intended for use as a front racing plate, whilst the Figure 6 design is intended 125 for use as a rear racing plate. In Figure 5, all the projections 7, except for the two foremost projections, are directed radially inwards. The Figure 6 construction is the same as that shown in Figures 2, 3 and 4.

CLAIMS

1. A horseshoe provided with a plurality of projections on and/or with a plurality of recesses in a lower face thereof whereby, in use, traction between the horseshoe and a surface engaged by the lower face of the horseshoe is enhanced.
2. A horseshoe as claimed in claim 1, which includes a channel in the lower face extending between ends of the horseshoe and a plurality of openings for nails, which extend between an upper surface and the lower face of the horseshoe and which open into the bottom of the channel.
3. A horseshoe as claimed in claim 2, which includes a plurality of projections provided on a portion of the lower face which bounds a radially inner side of the channel.
4. A horseshoe as claimed in claim 3, wherein said portion has a sloping surface which extends upwards and radially inwards from the channel.
5. A horseshoe as claimed in claim 3 or 4, wherein each projection is elongate when viewed perpendicularly to the lower face of the horseshoe and is inclined to a radius extending from a centre of the horseshoe through that projection.
6. A horseshoe as claimed in claim 5, wherein each projection has a rectangular cross-section in a plane perpendicular to the lower face of the horseshoe.
7. A horseshoe as claimed in any preceding claim, wherein lower surfaces of the projections are flush with a bottom surface of the horseshoe.
8. A horseshoe as claimed in any preceding claim, which is formed of iron or an alloy thereof.
9. A horseshoe as claimed in any one of claims 1 to 7, which is formed of aluminium or an aluminium alloy.
10. A horseshoe as claimed in any one of claims 1 to 7, which is formed of nylon or other plastics material.
11. A horseshoe substantially as hereinbefore described with reference to and as shown in, the accompanying drawings.